269

**PATENT** 

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

RECEIVED

John C. Harvey and James W. Cuddihy:

Group Art Unit: 2699

MAY 1 5 2001

Serial No.: 08/469,612 Examiner:

Luther, W.

Group 2600

Filed:

June 6, 1995

Atty Dkt:

05634.0280

For: SIGNAL PROCESSING APPARATUS

**AND METHODS** 

## TRANSMITTAL LETTER

## **BOX: Fee Amendement**

Assistant Commissioner of Patents Washington, D.C. 20231

## Applicants include in this communication:

- [X] Information Disclosure Statement;
- [X] PTO Form 1449;
- [X] Check No. 3475 for \$180.00;
- [X] Appendices A-E;
- [X] The Commissioner is hereby authorized to charge any additional fees, or credit any overpayment to Deposit Account No. 50-0206.
  - [x] Any filing fees under 37 CFR 1.16 for the presentation of extra claims.

[x] Any patent application processing fees under 37 CFR 1.17.

Date: May 11, 2001

**HUNTON & WILLIAMS** 

1900 K Street, NW,

12<sup>th</sup> Floor

Washington, D.C. 20006

Respectfully submitted,

Thomas J. Scott, Jr. Registration No. 27,836

Donald J. Lecher

Registration No. 41,933 Attorneys for Applicants

Tel: (202) 955-1938

#31 6-23-01

## THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of:

Group Art Unit:

2699

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Serial No.:

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John C. Harvey and James W. Cuddihy:

Examiner:

Luther, W.

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Atty Dkt:

05634.0280

For: SIGNAL PROCESSING APPARATUS AND METHODS

### **Information Disclosure Statement**

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that had been cited by or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

Applicants have checked the appropriate boxes below.

- [ ] 1. This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No statement under 37 C.F.R. § 1.97(e) or fee is required. 37 C.F.R. § 1.97(b).
- [X] 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance. 37 C.F.R. § 1.97(c).
  - I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
  - I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
  - [X] c. Attached is our Check No. 3475 in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).

- [ ] 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. It is hereby requested that the Information Disclosure Statement be considered. Attached is our Check No. 3475 in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(i). 37 C.F.R. § 1.97(d).
  - [ ] a. I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
  - I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
  - [ ] c. An accompanying petition requesting consideration of this Information Disclosure Statement and the petition fee set forth in 37 C.F.R. § 1.17(i) are included with this communication. 37 C.F.R. § 1.97(d)(2) & (3).
- [ ] 4. Relevance of the non-English language document(s) is discussed in the present specification. 37 C.F.R. § 1.98(a)(3).
- [X] 5. A concise explanation of the relevance of the non-English language document(s) appears below in Appendix A. 37 C.F.R. § 1.98(a)(3).
- [X] 6. Some documents were cited in corresponding foreign applications.
- [X] 7. The Examiner's attention is directed to Applicants' co-pending U.S. Patent Applications that are directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of secrecy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application

and the art'cited therein during examination. 37 C.F.R. § 1.98(d). Attached hereto is Appendix B listing Applicants' related applications, and Appendix C that lists the prior art previously cited by the PTO in those applications.

[X] 1. Copies of the documents were cited by or submitted to the Office in Applicants' Applications listed in Appendix D which are relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d). Applicants submit Appendix E which contains a list of all references not hereto previously cited in the instant application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

A single set of copied references required by 37 C.F.R. § 1.98(a) have been submitted in conjunction with this communication in Applicant's application number 08/113,329 in compliance with the PTO's instructions in the First Office Action of the above referenced application.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 50-0206.

Date: May 11, 2001

**HUNTON & WILLIAMS** 

1900 K Street, NW,

12<sup>th</sup> Floor

Washington, D.C. 20006

Respectfully submitted,

Thomas J. Scott, Jr. Registration No. 27,836

Donald J. Lecher

Registration No. 41,933 Attorneys for Applicants

Tel: (202) 955-1938



INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**CITATION FORM** 

Attorney Docket No. Serial No. RECEIVED
05634.0280 08/469,612

Applicant(s)

John C. Harvey and James W. Cuddihy

Filing Date Group Art Group 2600
June 6, 1995 Group Art Group 2600

### UNITED STATES PATENT DOCUMENTS

EXAMINER	PATENT	PATENT	A1445	CLASS/	FILING
INITIAL	NUMBER 1 027 702	DATE Contombox 10, 1022	NAME	SUBCLASS	DATE*
	1,927,702	September 19, 1933	Foss	705/36	December 3, 1932
	2,511,085	June 13, 1950	Smith	381/104	November 15, 1946
	2,573,349	October 30, 1951	Miller et al.	725/14	December 9, 1949
	2,769,023	October 30, 1956	Loew et al.	725/143	January 19, 1950
	2,788,387	April 9, 1957	Druz	380/320	October 2, 1951
	2,864,865	December 16, 1958	Morris	568/430	May 4, 1955
	2,866,962	December 30, 1958	Ellet	380/227	December 6, 1955
	2,969,427	January 24, 1961	See	348/705	May 27, 1957
	3,008,000	November 7, 1961	Morchand	725/138	September 11, 1958
	3,016,091	January 9, 1962	Daniele	162/391	August 11, 1960
	3,071,642	January 1, 1963	Mountjoy et al.	725/151	February 21, 1957
	3,213,201	October 19, 1965	Flood et al.	370/381	July 2, 1962
	3,238,297	March 1, 1966	Pawley et al.	380/240	July 8, 1951
	3,244,806	April 5, 1966	Morris	725/151	January 30, 1962
	3,363,250	January 9, 1968	Jacobson	340/825.17	July 20, 1965
	3,371,071	February 27, 1968	Webb	428/355EN	January 18, 1965
	3,387,268	June 4, 1968	Epstein	340/825.26	September 9, 1963
	3,531,583	September 29, 1970	Walker	380/230	July 28, 1966
	3,531,586	September 29, 1970	Bass et al.	725/151	April 19, 1965
	3,536,833	October 27, 1970	Guanella	380/28	July 8, 1965
	3,569,937	March 9, 1971	Hoetter	340/825.75	November 6, 1968
	3,573,747	April 6, 1971	Adams et al.	705/37	February 24, 1969
	3,586,767	June 22, 1971	Morchand	348/473	June 4, 1968
	3,586,771	June 22, 1971	Hamburger et al.	725/1	October 25, 1968
	3,601,528	August 24, 1971	McVoy	724/143	June 16, 1969
	3,606,688	April 24, 1971	Zawels et al.	434/323	July 11, 1969
	3,609,697	September 28, 1971	Blevins et al.	717/2	October 21, 1968
	3,627,914	December 14, 1971	Davies	348/722	September 4, 1969
	3,648,270	March 7, 1972	Metz et al.	345/24	August 11, 1969
	3,657,699	April 18, 1972	Rocher et al.	380/265	June 30, 1970
	3,659,046	April 5, 1972	Angeleri et al.	380/43	May 13, 1969
	3,676,580	July 11, 1972	Beck	725/16	June 1, 1970
	3,693,090	September 29, 1972	Gabriel	725/1	August 8, 1969
ĺ	3,703,684	November 21, 1972	McVoy	725/16	June 25, 1971
İ	3,716,835	February 13, 1973	Weinberg	.340/825.27	March 19, 1971
Î	3,725,672	April 3, 1973	Reuter	327/176	July 30, 1971



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EXAMINER I	PATERIT PAD	MARK PATENT DATE	NAME	CLASS/ SUBCLASS	FILING DATE*
	3,729,581	April 24, 1973	Anderson	348/640	September 3, 1973
	3,731,197	May 1, 1973	Clark	380/36	December 15, 1969
	3,736,369	May 29, 1973	Vogelman et al.	380/228	March 13, 1972
	3,744,043	July 3, 1973	Walden et al.	340/870.7	June 1, 1971
	3,746,780	July 17, 1973	Stetten et al.	386/95	February 25, 1971
	3,749,845	July 31, 1973	Fraser	370/433	August 27, 1971
	3,754,211	August 21, 1973	Rocher et al.	714/749	December 30, 1971
	3,755,624	August 28, 1973	Sekimoto	348/495	April 22, 1971
	3,757,225	September 4, 1973	Ukicki	725/1	March 16, 1972
	3,761,888	September 25, 1973	Flynn	710/18	August 3, 1972
	3,773,977	November 20, 1973	Guanella	380/36	June 21, 1971
	3,777,053	December 4, 1973	Wittig et al.	380/228	May 16, 1972
	3,789,137	January 29, 1974	Newell	386/98	April 7, 1972
	3,798,359	March 19, 1974	Feistel	380/37	June 30, 1971
	3,798,610	March 19, 1974	Bliss et al	709/236	December 20, 1972
	3,806,814	April 23, 1974	Forbes	725/119	April 26, 1972
	3,819,852	June 24, 1974	Wolf	348/478	August 29, 1972
	3,824,332	July 16, 1974	Horowitz	380/222	February 18, 1972
	3,824,467	July 16, 1974	French	380/35	December 1, 1972
	3,825,893	July 23, 1974	Bossen et al.	714/757	May 29, 1973
	3,833,757	September 3, 1974	Kirk, Jr. et al.	725/144	April 10, 1972
	3,835,387	September 10, 1974	Rookes et al.	725/151	November 15, 1972
	3,842,196	October 15, 1974	Loughlin.	348/486	November 12, 1973
	3,845,391	October 29, 1974	Crosby	455/39	July 15, 1971
	3,859,458	January 7, 1975	Takezawa et al.	348/24	August 30, 1973
	3,882,392	May 6, 1975	Harney	725/79	January 29, 1973
	3,890,461	June 17, 1975	Vogelman et al.	380/228	March 27, 1973
	3,891,792	June 24, 1975	Kimura	348/622	June 25, 1974
	3,893,031	July 1, 1975 July 8, 1995	Majeau et al. Mellon	380/274 380/230	November 8, 1972
	3,894,176 3,899,633	August 12, 1975	<del></del>	380/207	178/5.1 May 12, 1972
	3,909,512	September 30, 1975	Sorenson et al. Omori et al.	386/75	October 5, 1973
	3,911,216	October 7, 1975	Bartek et al.	380/46	December 17, 1973
	3,911,419	October 7, 1975	Bates et al.	345/162	November 23, 1973
	3,914,534	October 21, 1975	Forbes	380/220	October 29, 1973
	3,916,091	October 28, 1975	Kirk, Jr. et al.	380/242	January 31, 1973
	3,919,462	November 11, 1975	Hartung et al.	380/235	August 15, 1973
	3,921,151	November 18, 1975	Guanella	380/36	July 12, 1973
	3,922,482	November 25, 1975	Gabriel et al.	725/31	August 20, 1971
	3,934,079	January 20, 1976	Barnhart	725/131	October 26, 1973
	3,936,593	February 3, 1976	Aaronson et al.	380/219	August 5, 1974
	3,936,594	February 3, 1976	Schubin et al.	380/238	August 5, 1974
	3,944,931	March 16, 1976	Usami et al.	455/192.2	November 14, 1974
	3,949,313	April 6, 1976	Tamada et al.	341/50	May 28, 1974
	3,956,615	May 11, 1976	Anderson et al.	705/72	June 25, 1974

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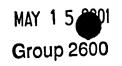
E.///	PATENT	,	- Croun	2600 <sub>ASS/</sub>	F
EXAMINER		PATENT DATE	NAME		FILING DATE*
INITIAL	NUMBER 3,970,790	July 20, 1976	Guanella	380/36	March 7, 1974
	3,978,449	August 31, 1976	Sanders et al.	714/823	January 27, 1975
	3,987,398	October 19, 1976	Fung	725/127	July 5, 1974
	3,988,528	October 26, 1976	Yanagimachi et al.	348/24	August 27, 1973
	3,990,050	November 2, 1976	Kolettis et al.	710/23	September 25, 1974
	3,993,955	November 23, 1976	Belcher et al.	710/23	April 25, 1975
	3,997,718	December 14, 1976	Ricketts et al.	725/114	
	4,008,369	February 15, 1977	Theurer et al.	725/3	November 11, 1974 February 28, 1975
	4,008,509	May 17, 1977	Nieson	380/232	February 26, 1975
	4,025,947	May 24, 1977	Michael	348/705	
		<del></del>	Loshin	· -	May 28, 1974
	4,025,948 4,048,619	May 24, 1977	<del> </del>	380/228	February 25, 1975
		September 13, 1977	Forman, Jr. et al.	370/485	September 17, 1976
	4,049,906	September 20, 1977	Hafner et al.	178/2C	April 21, 1976
	4,052,737	October 4, 1977	Robertson et al.	725/138	July 9, 1976
	4,058,830	November 15, 1977	Gulnet et al.	380/212	June 3, 1976
	4,064,490	December 20, 1977	Nagel	709/227	September 10, 1975
	4,068,264	January 10, 1978	Pires	380/233	July 19, 1976
	4,079,419	March 14, 1978	Siegle et al.	348/732	October 29, 1975
	4,081,612	March 28, 1978	Hafner	370/393	July 14, 1976
	4,081,753	March 28, 1978	Miller	455/158.2	December 13, 1976
	4,091,417	May 23, 1978	Nieson	380/232	February 23, 1977
	4,104,486	August 1, 1978	Martin et al.	379/106.06	June 29, 1976
	4,112,464	September 5, 1978	Gulf et al.	380/241	May 11, 1977
	4,115,662	September 19, 1978	Gulnet et al.	380/212	September 6, 1977
	4,115,807	September 19, 1978	Pires	380/233	November 1, 1976
•	4,120,030	October 10, 1978	Johnstine	713/190	March 11, 1977
	4,130,833	December 19, 1978	Choenet	380/220	April 11, 1977
	4,138,726	February 26, 1979	Girault et al.	345/113	June 29, 1977
	4,160,120	July 3, 1979	Barnes et al.	380/29	November 17, 1977
	4,161,751	July 17, 1979	Ost	725/25	May 19, 1977
	4,163,254	July 31, 1979	Block et al.	380/233	February 14, 1977
	4,163,255	July 31, 1979	Pires	380/233	June 15, 1978
	4,168,396	September 18, 1979	Best	713/190	October 31, 1977
	4,170,782	October 9, 1979	Miller Otov et al	725/14	October 28, 1977
	4,171,513	October 16, 1979	Otey et al.	380/43	July 22, 1969
	4,172,213	October 23, 1979	Barnes et al.	380/29	November 17, 1977
	4,186,413	January 29, 1980	Mortimer Some et al.	348/473	November 14, 1977
	4,196,310	April 1, 1980	Forman et al.	380/46	November 3, 1977
	4,200,770	April 29, 1980	Hellman et al.	380/30	September 6, 1977
	4,200,913	April 29, 1980	Kuhar et al.	341/23	April 13, 1977
	4,215,366	July 29, 1980	Davidson	380/235	April 24, 1979
	4,215,370	July 29, 1980	Kirk, Jr.	375/240.01	February 22, 1978
	4,225,967	September 3, 1980	Miwa et al.	455/68	January 9, 1978
	4,232,193	November 4, 1980	Gerard	380/36	May 3, 1978
	4,236,217	November 25, 1980	Kennedy	702/61	April 20, 1979

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Serial No. 08/469,612 Docket No. 5634.0280

Group 2600

4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980	\Z	<u> </u>	Group 2	2600	
4,237,486   December 2, 1980   Shimp   348/475   November 9, 197	NOMBHEMARY	PATENT DATE	NAME		
4,237,486   December 2, 1980   Shimp   348/475   November 9, 197	 4.237.484	December 2, 1980			
4,245,246         January 13, 1981         Cheung         380/235         August 3, 1978           4,247,106         January 27, 1981         Jeffers et al.         463/29         April 12, 1978           4,250,489         February 10, 1981         Dudash et al.         340/825.02         October 31, 1976           4,250,521         February 10, 1981         Wright         348/616         June 19, 1979           4,250,524         February 10, 1981         Tomizawa         380/232         February 22, 1971           4,251,691         February 17, 1981         Kakihara et al.         348/14.01         December 1, 1971           4,253,114         February 24, 1981         Tang et al.         380/212         September 26, 1912           4,263,329         April 14, 1981         Bright et al.         707/104         September 29, 1913           4,264,925         April 28, 1981         Freeman et al.         725/138         August 13, 1979           4,264,925         April 28, 1981         Shutterly         380/238         April 25, 1979           4,283,602         August 111, 1981         Adams et al.         380/238         April 25, 1979           4,283,602         August 118, 1981         Gable et al.         340/825, 43         June 7, 1978           4,280,769<		<del>`</del>			
4,247,106		<del></del>	<del>                                     </del>	<del></del>	
4,250,489   February 10, 1981   Dudash et al. 340/825.02   October 31, 1976		<del></del>	<del></del>		
4,250,521   February 10, 1981   Wright   348/616   June 19, 1979	<del>                                     </del>	<del> </del>	<del>;</del>	<del>                                     </del>	
4,250,524   February 10, 1981   Tomizawa   380/232   February 22, 1978     4,251,691   February 17, 1981   Kakihara et al.   348/14.01   December 1, 1971     4,253,114   February 24, 1981   Tang et al.   380/212   September 26, 1971     4,253,157   February 24, 1981   Kirschner et al.   707/104   September 29, 1971     4,262,329   April 14, 1981   Bright et al.   713/164   March 27, 1978     4,264,925   April 28, 1981   Freeman et al.   725/138   August 13, 1979     4,266,243   May 5, 1981   Shutterly   380/236   April 25, 1979     4,275,411   June 23, 1981   Lippel   348/472   April 19, 1978     4,283,602   August 11, 1981   Adams et al.   380/41   September 23, 196     4,284,976   August 18, 1981   Gable et al.   340/825,43   June 7, 1979     4,286,281   August 25, 1981   Suzuki   386/12   September 26, 197     4,287,592   September 1, 1981   Paulish et al.   370/403   May 23, 1979     4,288,809   September 8, 1981   Yabe   348/468   May 21, 1980     4,290,141   September 15, 1981   Anderson et al.   725/24   July 2, 1979     4,295,223   October 13, 1981   Shutterly   455/72   April 25, 1979     4,302,771   November 24, 1981   Gargini   725/119   July 23, 1980     4,304,990   December 8, 1981   Atalla   380/45   February 4, 1980     4,306,305   December 15, 1981   Doi et al.   714/755   October 19, 1979     4,306,305   December 15, 1981   Doi et al.   714/755   October 19, 1979     4,313,132   January 12, 1982   Baer   348/484   August 28, 1979     4,313,132   January 19, 1982   Baer   348/484   August 28, 1979     4,314,367   February 2, 1982   Baer   348/484   August 28, 1979     4,315,215   February 2, 1982   Baer   348/484   August 28, 1979     4,316,055   February 16, 1982   Baer   348/484   August 28, 1979     4,316,055   February 2, 1982   Baer   348/484   August 28, 1979     4,316,055   February 2, 1982   Baer   348/484   August 28, 1979     4,317,215   February 2, 1982   Baer   348/484   August 28, 1979     4,316,055   February 16, 1982   Feistel   380/37   December 30, 197     4,316,245   February				<del>;</del>	
4,251,691   February 17, 1981   Kakihara et al.   348/14.01   December 1, 197/					<del></del>
4,253,114         February 24, 1981         Tang et al.         380/212         September 26, 197           4,253,157         February 24, 1981         Kirschner et al.         707/104         September 29, 197           4,263,329         April 14, 1981         Bright et al.         713/164         March 27, 1978           4,264,925         April 28, 1981         Freeman et al.         725/138         August 13, 1979           4,266,243         May 5, 1981         Shutterly         380/236         April 25, 1979           4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,284,976         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,280,209         September 15, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October					
4,253,157         February 24, 1981         Kirschner et al.         707/104         September 29, 193           4,262,329         April 14, 1981         Bright et al.         713/164         March 27, 1978           4,264,925         April 28, 1981         Freeman et al.         725/138         August 13, 1979           4,266,243         May 5, 1981         Shutterly         380/236         April 25, 1979           4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981<				<del></del>	
4,262,329         April 14, 1981         Bright et al.         713/164         March 27, 1978           4,264,925         April 28, 1981         Freeman et al.         725/138         August 13, 1979           4,266,243         May 5, 1981         Shutterly         380/236         April 25, 1979           4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 198           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,304,990         December 8, 1981         Atalla         380/45         February 1, 1980           4,304,990         December 8, 1981	<del></del>		<del></del>	<del>;</del>	<del></del>
4,264,925         April 28, 1981         Freeman et al.         725/138         August 13, 1979           4,266,243         May 5, 1981         Shutterly         380/236         April 25, 1979           4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825, 43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 2, 1979           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981 <t< td=""><td></td><td></td><td><del>*</del></td><td><del></del></td><td><u> </u></td></t<>			<del>*</del>	<del></del>	<u> </u>
4,266,243         May 5, 1981         Shutterly         380/236         April 25, 1979           4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,304,990         December 8, 1981         Atalla         345/327         March 31, 1980           4,305,131         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,289         December 15, 1981         Doi		Y		· · · · · · · · · · · · · · · · · · ·	
4,275,411         June 23, 1981         Lippel         348/472         April 19, 1978           4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Lumley         71/31/90         February 4, 1980           4,306,289         December 15, 1981         Lumley         71/31/90         February 4, 1980           4,310,854         January 12, 1982			<del></del>		
4,283,602         August 11, 1981         Adams et al.         380/41         September 23, 196           4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,313,055         January 19, 1982	<del>, </del>		<del></del>		<del></del>
4,284,976         August 18, 1981         Gable et al.         340/825.43         June 7, 1979           4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Gl	<del></del>	<u> </u>	<del>,</del>		
4,286,281         August 25, 1981         Suzuki         386/12         September 26, 197           4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Best         345/327         March 31, 1980           4,306,131         December 8, 1981         Lumley         713/190         February 4, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,314,367         February 2, 1982         <	<del></del>		<del></del>	<del>}</del>	<del>,                                      </del>
4,287,592         September 1, 1981         Paulish et al.         370/403         May 23, 1979           4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,313,132         January 26, 1982         Doles et al.         725/66         October 31, 1979           4,314,367         February 16, 1982	<del></del>				·
4,288,809         September 8, 1981         Yabe         348/468         May 21, 1980           4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,313,132         January 19, 1982         Glaab et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,245         February 16, 1982	<del></del>		<u> </u>	<del></del>	·
4,290,141         September 15, 1981         Anderson et al.         725/24         July 2, 1979           4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,316,055         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,245         February 26, 1982	<del>^</del>		<del>^</del>	<del></del>	
4,295,223         October 13, 1981         Shutterly         455/72         April 25, 1979           4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 7, 1978           4,316,245         February 23, 1982	<del></del>		<u> </u>	<del></del>	
4,302,771         November 24, 1981         Gargini         725/119         July 23, 1980           4,304,990         December 8, 1981         Atalla         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982		<del></del>	<del>;</del>		
4,304,990         December 8, 1981         Atalia         380/45         February 4, 1980           4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 2, 1982<			<del></del>		
4,305,131         December 8, 1981         Best         345/327         March 31, 1980           4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982	<del></del>		<del> </del>		<del>                                     </del>
4,306,289         December 15, 1981         Lumley         713/190         February 4, 1980           4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1976           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30,	7		<del>                                     </del>	<del></del>	
4,306,305         December 15, 1981         Doi et al.         714/755         October 19, 1979           4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6,	<del>                                     </del>	<del></del>			
4,307,446         December 22, 1981         Barton et al.         710/131         May 2, 1979           4,310,854         January 12, 1982         Baer         348/484         August 28, 1979           4,312,016         January 19, 1982         Glaab et al.         348/706         February 2, 1979           4,313,132         January 26, 1982         Doles et al.         725/26         October 31, 1979           4,314,367         February 2, 1982         Bakka et al.         370/422         January 17, 1980           4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980	<del></del>				
4,310,854       January 12, 1982       Baer       348/484       August 28, 1979         4,312,016       January 19, 1982       Glaab et al.       348/706       February 2, 1979         4,313,132       January 26, 1982       Doles et al.       725/26       October 31, 1979         4,314,367       February 2, 1982       Bakka et al.       370/422       January 17, 1980         4,316,055       February 16, 1982       Feistel       380/37       December 30, 197         4,316,245       February 16, 1982       Luu et al.       709/106       December 7, 1978         4,317,215       February 23, 1982       Tabata et al.       725/131       September 11, 197         4,318,125       March 2, 1982       Shutterly       380/236       April 25, 1979         4,319,079       March 9, 1982       Best       713/190       January 17, 1980         4,322,745       March 30, 1982       Saeki et al.       380/242       March 21, 1980         4,323,921       April 6, 1982       Guillou       705/53       January 23, 1980	· · · · · · · · · · · · · · · · · · ·	<u> </u>			
4,312,016       January 19, 1982       Glaab et al.       348/706       February 2, 1979         4,313,132       January 26, 1982       Doles et al.       725/26       October 31, 1979         4,314,367       February 2, 1982       Bakka et al.       370/422       January 17, 1980         4,316,055       February 16, 1982       Feistel       380/37       December 30, 197         4,316,245       February 16, 1982       Luu et al.       709/106       December 7, 1978         4,317,215       February 23, 1982       Tabata et al.       725/131       September 11, 197         4,318,125       March 2, 1982       Shutterly       380/236       April 25, 1979         4,319,079       March 9, 1982       Best       713/190       January 17, 1980         4,322,745       March 30, 1982       Saeki et al.       380/242       March 21, 1980         4,323,921       April 6, 1982       Guillou       705/53       January 23, 1980			<del></del>		
4,313,132       January 26, 1982       Doles et al.       725/26       October 31, 1979         4,314,367       February 2, 1982       Bakka et al.       370/422       January 17, 1980         4,316,055       February 16, 1982       Feistel       380/37       December 30, 197         4,316,245       February 16, 1982       Luu et al.       709/106       December 7, 1978         4,317,215       February 23, 1982       Tabata et al.       725/131       September 11, 197         4,318,125       March 2, 1982       Shutterly       380/236       April 25, 1979         4,319,079       March 9, 1982       Best       713/190       January 17, 1980         4,322,745       March 30, 1982       Saeki et al.       380/242       March 21, 1980         4,323,921       April 6, 1982       Guillou       705/53       January 23, 1980	·		Glaab et al.		
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4,316,055         February 16, 1982         Feistel         380/37         December 30, 197           4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980	<u></u>		Bakka et al.		
4,316,245         February 16, 1982         Luu et al.         709/106         December 7, 1978           4,317,215         February 23, 1982         Tabata et al.         725/131         September 11, 197           4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980					December 30, 1976
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4,318,125         March 2, 1982         Shutterly         380/236         April 25, 1979           4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980	4,317,215	February 23, 1982	Tabata et al.	725/131	September 11, 1979
4,319,079         March 9, 1982         Best         713/190         January 17, 1980           4,322,745         March 30, 1982         Saeki et al.         380/242         March 21, 1980           4,323,921         April 6, 1982         Guillou         705/53         January 23, 1980	4,318,125	<del></del>	Shutterly	380/236	
4,323,921 April 6, 1982 Guillou 705/53 January 23, 1980	4,319,079	March 9, 1982	Best	713/190	January 17, 1980
	4,322,745	March 30, 1982	Saeki et al.	380/242	March 21, 1980
	4,323,921	April 6, 1982	Guillou	705/53	January 23, 1980
4,323,922   January 6, 1982   de Toonder et al.   380/226   December 17, 197	4,323,922	January 6, 1982	de Toonder et al.	380/226	December 17, 1979
			Seatom et al.		November 20, 1979
			Van Hulle	725/32	September 23, 1980
					January 15, 1980
				<del></del>	February 25, 1980
4,332,980 June 1, 1982 Reynolds et al. 370/259 May 30, 1980		<del></del>			
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EXAMINER INITIAL	PATENT NUMBERDENA 4.336.553	PATENT DATE	NAME	CLASS/ SUBCLASS	FILING DATE*
	4,336,553	June 22, 1982	den Toonder et al.	380/206	May 14, 1980
	4,336,559	June 22, 1982	Koyama et al.	260/73.05	November 9, 1978
	4,337,480	June 29, 1982	Bourassin et al.	348/552	February 8, 1980
	4,338,628	July 6, 1982	Payne et al.	380/213	December 19, 1979
	4,339,798	July 13, 1982	Hedges et al.	463/26	December 17, 1979
	4,340,903	July 20, 1982	Tamura	348/187	August 6, 1980
	4,343,042	August 3, 1982	Schrock et al.	725/116	June 9, 1979
	4,347,498	August 31, 1982	Lee et al.	340/825.02	November 21, 1979
	4,347,532	August 31, 1982	Korver	348/565	October 14, 1980
	4,353,088	October 5, 1982	den Toonder et al.	380/206	May 14, 1980
	4,354,201	October 12, 1982	Sechet et al.	380/228	June 11, 1980
	4,360,828	November 23, 1982	Briggs, Jr. et al	725/114	August 7, 1978
	4,361,851	November 30, 1982	Asip et al.	725/14	January 4, 1980
	4,361,877	November 30, 1982	Dyer et al.	702/176	February 5, 1980
	4,364,081	December 14, 1982	Hashimoto et al.	348/617	April 16, 1981
	4,365,110	December 21, 1982	Lee et al.	380/28	June 5, 1979
	4,367,548	January 4, 1983	Cotten, Jr. et al.	359/125	April 10, 1980
	4,367,557	January 4, 1983	Stern et al.	725/149	May 25, 1979
	4,368,483	January 11, 1983	Liu	348/617	June 22, 1981
	4,368,486	January 11, 1983	Degoulet et al.	348/598	February 25, 1981
	4,374,437	February 15, 1983	Citta et al.	455/164.2	December 29, 1980
	4,375,579	March 1, 1983	Davida et al.	380/28	January 30, 1980
	4,375,651	March 1, 1983	Templin et al.	348/731	July 27, 1981
	4,378,470	March 29, 1983	Murto, el al.	379/93.05	March 25, 1981
	4,379,205	April 5, 1983	Wyner	380/28	June 22, 1979
	4,385,324	May 24, 1983	Shioda et al.	348/781	November 16, 1981
	4,388,643	June 14, 1983	Aminetzah	380/239	April 6, 1981
	4,388,645	June 14, 1983	Cox et al.	348/468	April 13, 1981
	4,388,664	June 14, 1983	Ishman et al.	361/93.6	August 3, 1981
	4,389,671	June 21, 1983	Posner et al.	380/235	September 29, 1980
	4,390,898	June 28, 1983	Bond et al.	380/241	March 23, 1981
	4,394,691	July 19, 1983	Amano et al.	348/734	July 30, 1981
	4,394,762	July 19, 1981	Nabeshima	714/758	January 6, 1981
	4,395,757	July 26, 1983	Bienvenu et al.	709/104	April 14, 1981
	4,396,915	August 2, 1983	Farnsworth et al.	340/870.03	March 31, 1980
	4,396,946	August 2, 1983	Bond	380/226	March 23, 1981
	4,396,947	August 2, 1983	Cheung	380/222	March 26, 1980
	4,398,216	August 9, 1983	Field et al.	380/238	September 19, 1980
	4,400,587	August 23, 1983	Taylor et al.	379/113	August 25, 1981
	4,405,942	September 20, 1983	Block et al.	380/214	March 3, 1982
	4,410,917	October 18, 1983	Newdoll et al.	360/15	September 14, 1981
	4,413,339	November 1, 1983	Riggle et al.	714/765	July 24, 1981
	4,415,771	November 15, 1983	Martinez	379/43	April 3, 1981
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	4,424,532	January 3, 1984	den Toonder et al.	380/226	May 9, 1983

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	4,433,207	February 21, 1984	Best	713/190	September 10, 1981
	4,434,323	February 28, 1984	Levine et al.	380/260	June 29, 1981
	4,434,436	February 28, 1984	Kleykamp et al.	380/209	July 13, 1981
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	4,439,784	March 23, 1984	Furukawa et al.	725/25	September 26, 1980
	4,446,519	May 1, 1984	Thomas	711/164	May 26, 1981
	4,449,246	May 15, 1984	Seiler et al.	455/9	May 2, 1980
	4,455,570	June 19, 1984	Saeki, et al.	725/92	October 13, 1981
	4,461,002	July 17, 1984	Nanko	714/798	January 19, 1982
	4,464,679	August 7, 1984	Wargo	348/510	July 6, 1981
	4,467,139	August 21, 1984	Mollier	713/181	March 12, 1981
	4,467,356	August 21, 1984	McCoy	348/385.1	September 24, 1981
	4,471,163	September 11, 1984	Donald et al.	705/55	October 5, 1981
	4,471,164	September 11, 1984	Henry	380/30	October 13, 1981
	4,472,801	September 18, 1984	Huang	370/411	March 28, 1983
	4,473,824	September 25, 1984	Claytor	340/825.27	July 22, 1983
	4,475,123	October 2, 1984	Dumbauld et al.	380/211	April 2, 1981
	4,484,218	November 20, 1984	Boland et al.	725/131	April 29, 1981
	4,486,853	December 4, 1984	Parsons	345/418	April 1, 1981
	4,492,820	January 8, 1985	Kennard et al.	379/46	October 24, 1980
	4,500,987	February 19, 1985	Hasegawa	370/462	November 23, 1982
	4,506,387	March 19, 1985	Walter	359/118	May 25, 1983
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	4,518,989	May 21, 1985	Yabiki et al.	725/92	September 30, 1982
	4,528,588	July 9, 1985	Lofberg	340/5.1	May 18, 1982
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	4,538,176	August 27, 1985	Nakajima et al.	725/119	November 26, 1979
	4,567,359	January 28, 1986	Lockwood	235/381	May 24, 1984
	4,580,134	April 1, 1986	Campbell et al.	345/152	November 16, 1982
	4,593,353	June 3, 1986	Pickholtz	705/55	October 26, 1981
	4,598,288	July 1, 1986	Yarbrough et al.	340/5.74	December 20, 1983
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	4,611,227	September 9, 1986	Brockhurst et al.	348/468	November 22, 1982
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	4,631,585	December 23, 1986	Wine Drury et al.	348/510	May 7, 1984
	4,636,851	January 13, 1987		380/215	December 12, 1983
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Serial No. 08/469,612 Docket No. 5634.0280

PAUEWY MBEF <u>Group</u> 2600 **EXAMINER PATENT** CLASS/ **FILING INITIAL NUMBER** DATE NAME **SUBCLASS** DATE\* 713/168 December 23, 1985 4,706,282 November 10, 1987 Knowd 4,742,516 May 3, 1988 Yamaguchi 370/312 January 10, 1986 4,742,543 May 3, 1988 Fredericksen 380/237 July 10, 1986 Brennand et al. 4,744,080 May 10, 1988 February 27, 1986 380/212 4,748,619 May 31, 1988 Vigarie et al. 370/349 February 20, 1987 4,772,887 September 20, 1988 Dunkerton 340/825.48 August 5, 1983 September 27, 1988 4,774,583 Kellar et al. 348/585 February 6, 1985 4,782,387 November 1, 1988 Sabri et al. 375/240.21 December 9, 1986 4,809,267 February 28, 1989 Higuchi et al. 370/460 June 29, 1987 4,814,756 March 21, 1989 Chauvel 345/565 January 28, 1987 4,831,526 May 16, 1989 Luchs et al. 705/4 April 22, 1986 4,835,777 May 30, 1989 DeLuca, et al. 714/822 January 7, 1987 4,908,713 March 13, 1990 Levine 386/83 June 29, 1988 July 7, 1990 4,942,616 Linstroth et al. 704/275 September 9, 1985 4,963,994 October 16, 1990 Levine 386/83 February 23, 1990 RE 31,182 March 15, 1983 Crager et al. 178/3 October 11, 1979 RE 31,735 November 13, 1984 Davidson 380/235 July 26, 1982 RE 32,326 January 6, 1987 Nagel et al. 348/463 May 19, 1983

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	2,904,981		Germany		
	3,143,627		Germany		
	60-146587		JP		
	AU 74,619		AU		
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	DE 3,143,627		DE		
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	GB 2,016,874	Feb-79	GB		
	GB 2,140,963		GB		
	GB 2034995		GB		

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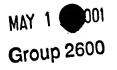
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Serial No. 08/469,612 Docket No. 5634.0280

	DOG SUMENT NUMBER		Group 2	2600	Docket No.	5634.0280
EXAMINER	<b>POGLIMENT</b>	PUBLICATION		CLASS/	TRANS	ATION
INITIAL	NUMBER	DATE	COUNTRY	SUBCLASS	YES	NO
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	JP 53-121420		JP			
	JP 55-028691		JP			
	JP 55-500886		JP			
	JP 56-51161		JР			
	JP 57-199377		JP			
	JP 59-154886		JP			
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	4/79	Kazama et al.,	"Automatic storage and retreival of video taped programs", 4/79
	3/80		Transcript of Viewdata '80, first world conference on viewdata, videotex, and teletext, 26-28 March 1980, London.
		Benson, K. B. et al.	"CBS New York Video Tape Facilities"
	1960	Brown et al.	Project SCORE," pp. 624-630, 1960.
		Burkhardt et al.	"Digitial Television Transmisson With 34 Mbit/s"
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	1/76	Crowther, et al.	"TELETEXT RECEIVER LSI DATA ACQUISITION AND
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		Gaucher,	"Automatic Program Recording System"
		M.W.S Barlow	"Automatic Switching in the CBC- An Update"
	1959	Marsden,	"Master Control Techniques," v 9 of the "Journal of the Television Society," 1959
		McArthur, David	"The television as a receive only terminal"
		Millar et al.	"Transmission of Alphanumeric Data by Television"
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		Yamane et al.	"System and apparatus for automatic Monitoring control of Broadcast Circuits"
		Zettl	"Television Production Handbook", second edition.
		Schiller et al.	"CATV Program Origination and Production"
	6/71	Hughes et al.	"Some Design Considerations for Home Interactive Terminals, IEEE Transaction on Broadcasting, Vol. BC-17, No. 2, June 1971.
		Kaneko et al.	"Digital Transmission of Broadcast Television with Reduced Bit Rate."
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	2/1985		"Specification du service de classe A, TeleDiffusion de France," Antiope.
	6/1981	Gautier, J.P.	"Language Telediffuse de Messagerie du Projet Ecrans Hybrides," Antiope/Didon system.
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	5/1981	Grethlein, M.	"Videotext und Bildschirmtext," Funkschau, Heft 5, 1981, pp. 69-73.
	4/1980	Heider, et al.	"Videotext und Bildschirmtext," Grundig Technische Informationen, Heft 4/5, 1980, pp. 171-195.
	6/1984		Kombinierer fur Videotextsignal, "Runfunktechnische Mitteilungen," Jahrgang 28, (1984), Heft 6, pp. 273-289.

EXAMINER	DATE CONSIDERED
EXAMINER:Initial if citation considered, whether or not citation is in conformance in conformance and not considered. Include copy of this form with next communication.	

## Appendix A

A concise explanation of the relevance, as it is presently understood, of each patent, publication, or other information listed that is not in the English language. 37 C.F.R. § 1.98(a)(3).

Reference No.	Date	Author/ Inventor	Title/Description	Explanation
JP 53-121420			Japanese Patent	A billing system for pay TV is
			Laying Open Gazette	disclosed.
JP 60-149281			Japanese Patent	A billing system for pay TV is
			Laying Open Gazette	disclosed.
JP 61-267474			Japanese Patent	A receiver for pay broadcast is
		Į.	Laying Open Gazette	disclosed.
JP 61-20441	†		Japanese Patent	A broadcast system is disclosed
			Laying Open Gazette	
PL 52080	1	Zaboklicki	Sposob Realizacji I	A method and apparatus for
1 12 32000	1	Zucomicki	Zestaw Urzadzen	interactive television systems
			Aktywnej Telewizji	designed for a conversational
			Aktywiicj Telewizji	reception of specially
				programmed television
				broadcasts.
DE 29 04 981		Zaboklicki	Verfahren zur	A method and apparatus for
DE 29 04 901		Zaboklicki		
			Ubertragung von	interactive television systems
			Fernsehsignalen und	designed for a conversational
			System zur	reception of specially
			Durchfuhrung des	programmed television
TD 50 00051		71.11.1.	Verfahrens.	broadcasts.
FR 79 03351	1	Zaboklicki	Procede de realisation	A method and apparatus for
	1		et ensemble de	interactive television systems
	}		dispositifs formant un	designed for a conversational
			systeme de television	reception of specially
			interactive.	programmed television
				broadcasts.
	2/1985		"Specification du	A specification of a broadcast
			service de classe A,	teletext system.
			TeleDiffusion de	
			France," Antiope.	
	6/1981	Gautier, J.P.	"Language	A hybrid screen teletext
			Telediffuse de	electronic message system.
			Messagerie du Projet	
			Ecrans Hybrides,"	
			Antiope/Didon	<u> </u>
	<u> </u>		system.	
	6/1985	Auer, R.	"Die Warteschlange	A fast video text queing system
			Uberlistet,"	that decreases the waiting time
			Funkschau, pp. 53-56.	with a broadcast videotext
	<u> </u>			decoder.
	6/1984		Kombinierer fur	A combiner for a videotext
		1	Videotextsignal,	signal that makes it possible to
			"Runfunktechnische	transfer videotext pages form
		}	Mitteilungen,"	several input cycles to one
			Jahrgang 28, (1984),	output cycle.



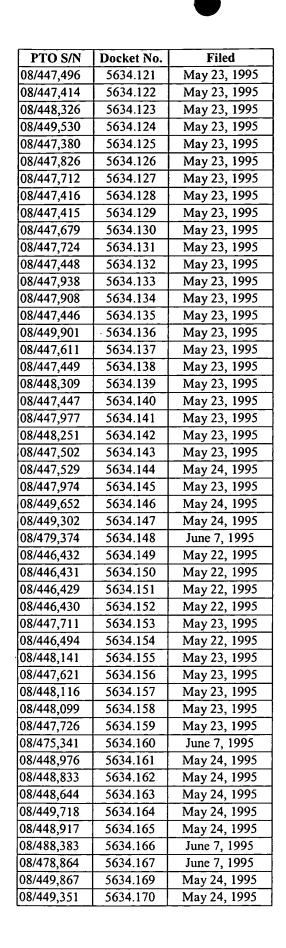
Reference No.	Date	Author/ Inventor	Title/Description	Explanation
			Heft 6, pp. 273-289.	
	5/1981	Grethlein, M.	"Videotext und Bildschirmtext," Funkschau, Heft 5, 1981, pp. 69-73.	Videotext and interactive videotext.
	4/1980	Heider, et al.	"Videotext und Bildschirmtext," Grundig Technische Informationen, Heft 4/5, 1980, pp. 171- 195.	Videotext and interactive videotext.

Appendix B

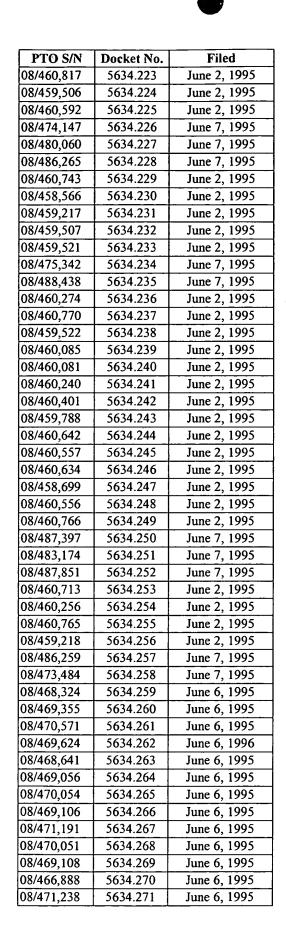
List of Applicants' related co-pending applications. 37 C.F.R. § 1.98(d).

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08/449,800	5634.184	May 24, 1995
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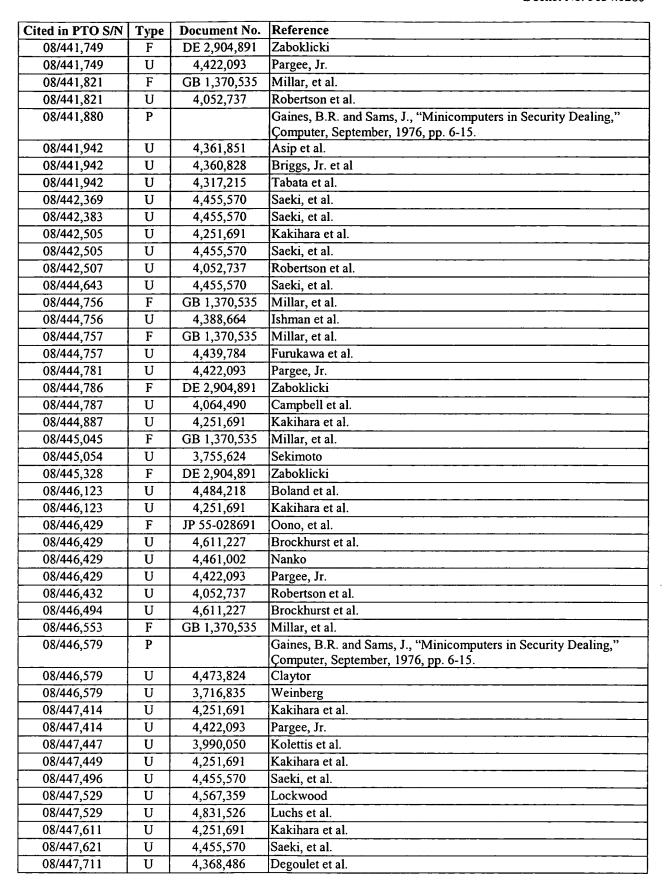
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08/474,119	5634.330	
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08/473,927	5634.333	June 7, 1995
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08/480,740	5634.343	June 7, 1995
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08/488,620	5634.354	June 7, 1995
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# Appendix C

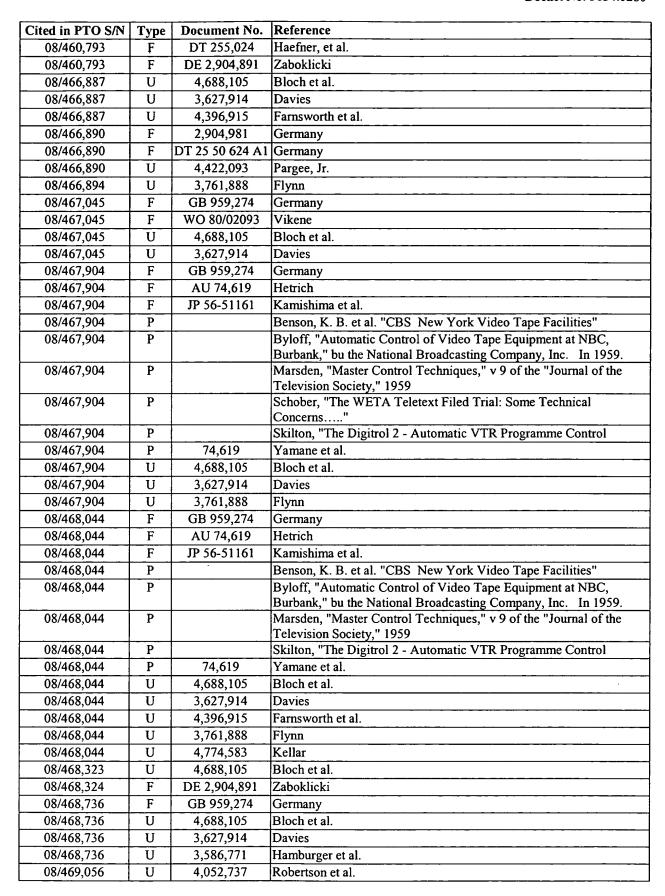
List of prior art cited by PTO in Applicants' related co-pending applications. The "Type" column refers to "F" = foreign patent or application; "P" = publication; and, "U" = U.S. Patent.

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08/113,329	P		Skilton, "The Digitrol 2 - Automatic VTR Programme Control
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08/397,636	U	4,052,737	Robertson et al.
08/397,636	U	3,755,624	Sakimoto
08/435,757	Ū	4,052,737	Robertson et al.
08/437,937	Ü	4,455,570	Saeki, et al.
08/438,011	F	DE 2,904,891	Zaboklicki
08/440,657	Ū	4,052,737	Robertson et al.

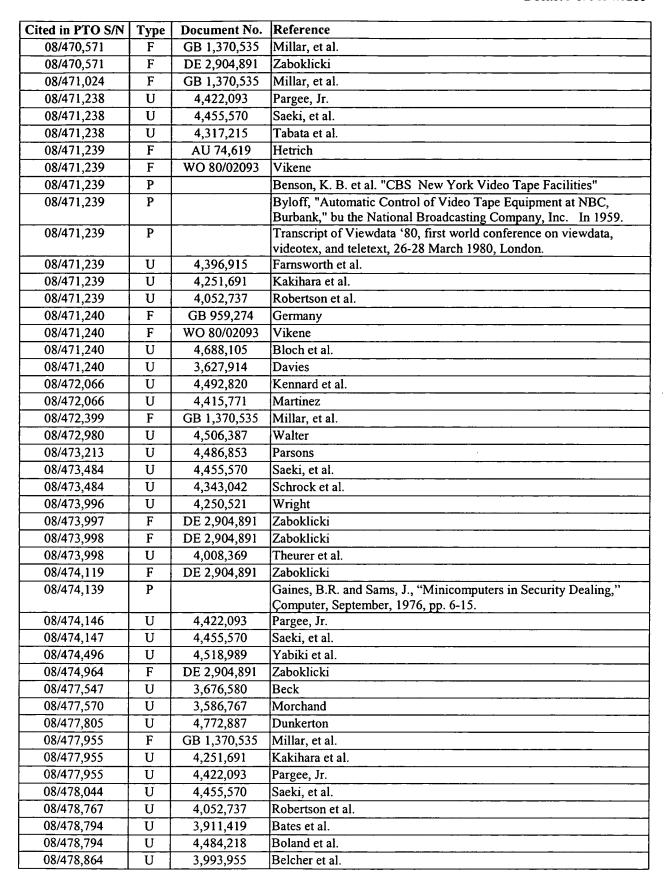


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08/448,099	F	GB 1,370,535	Millar, et al.
08/448,116	U	4,250,489	Dudash et al.
08/448,143	U	4,831,526	Luchs et al.
08/448,143	U	4,052,737	Robertson et al.
08/448,143	U	4,677,552	Sibley, Jr.
08/448,251	F	JP 55-028691	Oono, et al.
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08/451,203	U	4,422,093	Pargee, Jr.
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08/470,051	U	4,422,093	Pargee, Jr.
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08/478,908	Ū	4,614,971	Maney et al.
08/479,215	Ū	4,455,570	Saeki, et al.
08/479,216	F	GB 1,370,535	Millar, et al.
08/479,375	F	GB 1,370,535	Millar, et al.
08/479,523	U	4,455,570	Saeki, et al.
08/480,740	U	3,755,624	Sekimoto
08/482,573	F	GB 1,370,535	Millar, et al.
08/482,573	P		Davidoff, Frank, "The All-Digital Television Studio," SMPTE
,		·	Journal, vol. 89, No. 6.
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08/482,574	U	4,636,851	Drury et al.
08/482,574	U	4,782,387	Sabri et al.
08/482,574	U	4,748,619	Vigarie et al.
08/482,857	F	60-146587	Japan
08/482,857	U	4,677,685	Kurisu
08/483,054	F	WO 80/02093	Vikene
08/483,169	U	4,455,570	Saeki, et al.
08/484,858	U	4,506,387	Walter
08/484,865	F	DE 2,904,891	Zaboklicki
08/484,865	U	4,330,794	Sherwood
08/485,282	Ü	4,455,570	Saeki, et al.
08/485,773	U	4,052,737	Robertson et al.
08/485,775	U	4,422,093	Pargee, Jr.
08/486,258	U	4,484,218	Boland et al.
08/486,259	Ū	RE 31182	Crager et al.
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08/486,265	U	4,422,093	Pargee, Jr.
08/487,155	U	4,580,134	Campbell et al.
08/487,155	U	4,251,691	Kakihara et al.
08/487,506	U	4,052,737	Robertson et al.
08/487,536	U	4,317,215	Tabata et al.
08/487,556	F	DE 2,904,891	Zaboklicki
08/487,565	U	4,052,737	Robertson et al.
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08/487,982	F	DE 2,904,891	Zaboklicki
08/487,984	F	DE 2,904,891	Zaboklicki
08/488,058	F	DE 2,904,891	Zaboklicki
08/488,058	Ū	3,909,512	Omori et al.

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08/488,438	Ū	4,052,737	Robertson et al.
08/488,619	P		Gaines, B.R. and Sams, J., "Minicomputers in Security Dealing," Computer, September, 1976, pp. 6-15.
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# Appendix D

List of Applicants' prior applications relied upon for an earlier filing date under 35 U.S.C. 120. 37 C.F.R. § 1.98(d).

App. No.	File Date	Patent No.	Patent Date
317,510	November 3, 1981	4,694,490	September 15, 1987
829,531	February 14, 1986	4,704,725	November 3, 1987
96,096	September 11, 1987	4,965,825	October 23, 1990
588,126	September 25, 1990	5,109,414	April 28, 1992
849,226	March 10, 1992	5,233,654	August 3, 1993
56,501	May 3, 1993	5,335,277	August 2, 1994

# Appendix E

List of prior art not cited in Applicants' related co-pending applications but cited in Applicants' prior applications (see Appendix D) relied upon for an earlier filing date under 35 U.S.C. 120. 37 C.F.R. § 1.98(d).

PATENT	DATE	NAME	CLASS	FILING DATE
2,511,085	June 13, 1950	Smith	381/104	November 15, 1946
2,573,349	October 30, 1951	Miller et al.	725/14	December 9, 1949
2,769,023	October 30, 1956	Loew et al.	725/143	January 19, 1950
2,788,387	April 9, 1957	Druz	380/320	October 2, 1951
2,864,865	December 16, 1958	Morris	568/430	May 4, 1955
2,866,962	December 30, 1958	Ellet	380/227	December 6, 1955
3,016,091	January 9, 1962	Daniele	162/391	August 11, 1960
3,071,642	January 1, 1963	Mountjoy et al.	725/151	February 21, 1957
3,213,201	October 19, 1965	Flood et al.	370/381	July 2, 1962
3,238,297	March 1, 1966	Pawley et al.	380/240	July 8, 1951
3,363,250	January 9, 1968	Jacobson	340/825.17	July 20, 1965
3,531,586	September 29, 1970	Bass et al.	725/151	April 19, 1965
3,536,833	October 27, 1970	Guanella	380/28	July 8, 1965
3,569,937	March 9, 1971	Hoetter	340/825.75	November 6, 1968
3,573,747	April 6, 1971	Adams et al.	705/37	February 24, 1969
3,601,528	August 24, 1971	McVoy	724/143	June 16, 1969
3,609,697	September 28, 1971	Blevins et al.	717/2	October 21, 1968
3,657,699	April 18, 1972	Rocher et al.	380/265	June 30, 1970
3,659,046	April 5, 1972	Angeleri et al.	380/43	May 13, 1969
3,693,090	September 29, 1972	Gabriel	725/1	August 8, 1969
3,703,684	November 21, 1972	McVoy	725/16	June 25, 1971
3,725,672	April 3, 1973	Reuter	327/176	July 30, 1971
3,729,581	April 24, 1973	Anderson	348/640	September 3, 1973
3,731,197	May 1, 1973	Clark	380/36	December 15, 1969
3,736,369	May 29, 1973	Vogelman et al.	380/228	March 13, 1972
3,749,845	July 31, 1973	Fraser	370/433	August 27, 1971
3,757,225	September 4, 1973	Ukicki	725/1	March 16, 1972
3,773,977	November 20, 1973	Guanella	380/36	June 21, 1971
3,777,053	December 4, 1973	Wittig et al.	380/228	May 16, 1972
3,789,137	January 29, 1974	Newell	386/98	April 7, 1972
3,798,359	March 19, 1974	Feistel	380/37	June 30, 1971
3,798,610	March 19, 1974	Bliss et al	709/236	December 20, 1972
3,806,814	April 23, 1974	Forbes	725/119	April 26, 1972
3,819,852	June 24, 1974	Wolf	348/478	August 29, 1972
3,824,332	July 16, 1974	Horowitz	380/222	February 18, 1972
3,824,467	July 16, 1974	French	380/35	December 1, 1972
3,825,893	July 23, 1974	Bossen et al.	714/757	May 29, 1973
3,833,757	September 3, 1974	Kirk, Jr. et al.	725/144	April 10, 1972
3,835,387	September 10, 1974	Rookes et al.	725/151	November 15, 1972
3,842,196	October 15, 1974	Loughlin.	348/486	November 12, 1973
3,845,391	October 29, 1974	Crosby	455/39	July 15, 1971
3,882,392	May 6, 1975	Harney	725/79	January 29, 1973

PATENT	DATE	NAME	CLASS	FILING DATE
3,890,461	June 17, 1975	Vogelman et al.	380/228	March 27, 1973
3,891,792	June 24, 1975	Kimura	348/622	June 25, 1974
3,893,031	July 1, 1975	Majeau et al.	380/274	November 8, 1972
3,894,176	July 8, 1995	Mellon	380/230	178/5.1
3,899,633	August 12, 1975	Sorenson et al.	380/207	May 12, 1972
3,911,216	October 7, 1975	Bartek et al.	380/46	December 17, 1973
3,914,534	October 21, 1975	Forbes	380/220	October 29, 1973
3,916,091	October 28, 1975	Kirk, Jr. et al.	380/242	January 31, 1973
3,919,462	November 11, 1975	Hartung et al.	380/235	August 15, 1973
3,921,151	November 18, 1975	Guanella	380/36	July 12, 1973
3,934,079	January 20, 1976	Barnhart	725/131	October 26, 1973
3,936,593	February 3, 1976	Aaronson et al.	380/219	August 5, 1974
3,936,594	February 3, 1976	Schubin et al.	380/238	August 5, 1974
3,949,313	April 6, 1976	Tamada et al.	341/50	May 28, 1974
3,956,615	May 11, 1976	Anderson et al.	705/72	June 25, 1974
3,970,790	July 20, 1976	Guanella	380/36	March 7, 1974
3,978,449	August 31, 1976	Sanders et al.	714/823	January 27, 1975
3,987,398	October 19, 1976	Fung	725/127	July 5, 1974
3,988,528	October 26, 1976	Yanagimachi et al.	348/24	August 27, 1973
3,997,718	December 14, 1976	Ricketts et al.	725/114	November 11, 1974
4,024,574	May 17, 1977	Nieson	380/232	February 26, 1975
4,025,947	May 24, 1977	Michael	348/705	May 28, 1974
4,025,948	May 24, 1977	Loshin	380/228	February 25, 1975
4,048,619	September 13, 1977	Forman, Jr. et al.	370/485	September 17, 1976
4,049,906	September 20, 1977	Hafner et al.	178/2C	April 21, 1976
4,058,830	November 15, 1977	Gulnet et al.	380/212	June 3, 1976
4,068,264	January 10, 1978	Pires	380/233	July 19, 1976
4,079,419	March 14, 1978	Siegle et al.	348/732	October 29, 1975
4,081,612	March 28, 1978	Hafner	370/393	July 14, 1976
4,081,753	March 28, 1978	Miller	455/158.2	December 13, 1976
4,091,417	May 23, 1978	Nieson	380/232	February 23, 1977
4,104,486	August 1, 1978	Martin et al.	379/106.06	June 29, 1976
4,112,464	September 5, 1978	Gulf et al.	380/241	May 11, 1977
4,115,662	September 19, 1978	Gulnet et al.	380/212	September 6, 1977
4,115,807	September 19, 1978	Pires	380/233	November 1, 1976
4,120,030	October 10, 1978	Johnstine	713/190	March 11, 1977
4,130,833	December 19, 1978	Choenet	380/220	April 11, 1977
4,138,726	February 26, 1979	Girault et al.	345/113	June 29, 1977
4,160,120	July 3, 1979	Barnes et al.	380/29	November 17, 1977
4,161,751	July 17, 1979	Ost	725/25	May 19, 1977
4,163,254	July 31, 1979	Block et al.	380/233	February 14, 1977
4,163,255	July 31, 1979	Pires	380/233	June 15, 1978
4,168,396	September 18, 1979	Best	713/190	October 31, 1977
4,170,782	October 9, 1979	Miller	725/14	October 28, 1977
4,171,513	October 16, 1979	Otey et al.	380/43	July 22, 1969
4,172,213	October 23, 1979	Barnes et al.	380/29	November 17, 1977
4,186,413	January 29, 1980	Mortimer	348/473	November 14, 1977
4,196,310	April 1, 1980	Forman et al.	380/46	November 3, 1977
4,200,770	April 29, 1980	Hellman et al.	380/30	September 6, 1977

PATENT	DATE	NAME	CLASS	FILING DATE
4,200,913	April 29, 1980	Kuhar et al.	341/23	April 13, 1977
4,215,366	July 29, 1980	Davidson	380/235	April 24, 1979
4,215,370	July 29, 1980	Kirk, Jr.	375/240.01	February 22, 1978
4,225,967	September 3, 1980	Miwa et al.	455/68	January 9, 1978
4,232,193	November 4, 1980	Gerard	380/36	May 3, 1978
4,236,217	November 25, 1980	Kennedy	702/61	April 20, 1979
4,237,484	December 2, 1980	Brown et al.	375/240.12	August 8, 1979
4,247,106	January 27, 1981	Jeffers et al.	463/29	April 12, 1978
4,250,524	February 10, 1981	Tomizawa	380/232	February 22, 1979
4,253,114	February 24, 1981	Tang et al.	380/212	September 26, 1978
4,253,157	February 24, 1981	Kirschner et al.	707/104	September 29, 1978
4,262,329	April 14, 1981	Bright et al.	713/164	March 27, 1978
4,264,925	April 28, 1981	Freeman et al.	725/138	August 13, 1979
4,266,243	May 5, 1981	Shutterly	380/236	April 25, 1979
4,275,411	June 23, 1981	Lippel	348/472	April 19, 1978
4,283,602	August 11, 1981	Adams et al.	380/41	September 23, 1968
4,284,976	August 18, 1981	Gable et al.	340/825.43	June 7, 1979
4,286,281	August 25, 1981	Suzuki	386/12	September 26, 1979
4,287,592	September 1, 1981	Paulish et al.	370/403	May 23, 1979
4,288,809	September 8, 1981	Yabe	348/468	May 21, 1980
4,290,141	September 15, 1981	Anderson et al.	725/24	July 2, 1979
4,295,223	October 13, 1981	Shutterly	455/72	April 25, 1979
4,302,771	November 24, 1981	Gargini	725/119	July 23, 1980
4,304,990	December 8, 1981	Atalla	380/45	February 4, 1980
4,305,131	December 8, 1981	Best	345/327	March 31, 1980
4,306,289	December 15, 1981	Lumley	713/190	February 4, 1980
4,306,305	December 15, 1981	Doi et al.	714/755	October 19, 1979
4,307,446	December 22, 1981	Barton et al.	710/131	May 2, 1979
4,310,854	January 12, 1982	Baer	348/484	August 28, 1979
4,312,016	January 19, 1982	Glaab et al.	348/706	February 2, 1979
4,313,132	January 26, 1982	Doles et al.	725/26	October 31, 1979
4,314,367	February 2, 1982	Bakka et al.	370/422	January 17, 1980
4,316,055	February 16, 1982	Feistel	380/37	December 30, 1976
4,316,245	February 16, 1982	Luu et al.	709/106	December 7, 1978
4,318,125	March 2, 1982	Shutterly	380/236	April 25, 1979
4,319,079	March 9, 1982	Best	713/190	January 17, 1980
4,322,745	March 30, 1982	Saeki et al.	380/242	March 21, 1980
4,323,921	April 6, 1982	Guillou	705/53	January 23, 1980
4,323,922	January 6, 1982	de Toonder et al.	380/226	December 17, 1979
4,325,078	April 13, 1982	Seatom et al.	380/230	November 20, 1979
4,329,675	May 11, 1982	Van Hulle	725/32	September 23, 1980
4,329,684	May 11, 1982	Monteath et al.	345/180	January 15, 1980
4,332,980	June 1, 1982	Reynolds et al.	370/259	May 30, 1980
4,334,242	June 8, 1982	Mangold	386/46	January 14, 1980
4,336,553	June 22, 1982	den Toonder et al.	380/206	May 14, 1980
4,336,559	June 22, 1982	Koyama et al.	260/73.05	November 9, 1978
4,337,480	June 29, 1982	Bourassin et al.	348/552	February 8, 1980
4,338,628	July 6, 1982	Payne et al.	380/213	December 19, 1979
4,339,798	July 13, 1982	Hedges et al.	463/26	December 17, 1979

PATENT	DATE	NAME	CLASS	FILING DATE
4,340,903	July 20, 1982	Tamura	348/187	August 6, 1980
4,347,498	August 31, 1982	Lee et al.	340/825.02	November 21, 1979
4,347,532	August 31, 1982	Korver	348/565	October 14, 1980
4,353,088	October 5, 1982	den Toonder et al.	380/206	May 14, 1980
4,354,201	October 12, 1982	Sechet et al.	380/228	June 11, 1980
4,361,877	November 30, 1982	Dyer et al.	702/176	February 5, 1980
4,364,081	December 14, 1982	Hashimoto et al.	348/617	April 16, 1981
4,365,110	December 21, 1982	Lee et al.	380/28	June 5, 1979
4,367,548	January 4, 1983	Cotten, Jr. et al.	359/125	April 10, 1980
4,367,557	January 4, 1983	Stern et al.	725/149	May 25, 1979
4,375,579	March 1, 1983	Davida et al.	380/28	January 30, 1980
4,375,651	March 1, 1983	Templin et al.	348/731	July 27, 1981
4,379,205	April 5, 1983	Wyner	380/28	June 22, 1979
4,388,643	June 14, 1983	Aminetzah	380/239	April 6, 1981
4,388,645	June 14, 1983	Cox et al.	348/468	April 13, 1981
4,389,671	June 21, 1983	Posner et al.	380/235	September 29, 1980
4,390,898	June 28, 1983	Bond et al.	380/241	March 23, 1981
4,394,691	July 19, 1983	Amano et al.	348/734	July 30, 1981
4,394,762	July 19, 1981	Nabeshima	714/758	January 6, 1981
4,395,757	July 26, 1983	Bienvenu et al.	709/104	April 14, 1981
4,396,947	August 2, 1983	Cheung	380/222	March 26, 1980
4,398,216	August 9, 1983	Field et al.	380/238	September 19, 1980
4,400,587	August 23, 1983	Taylor et al.	379/113	August 25, 1981
4,405,942	September 20, 1983	Block et al.	380/214	March 3, 1982
4,410,917	October 18, 1983	Newdoll et al.	360/15	September 14, 1981
4,413,339	November 1, 1983	Riggle et al.	714/765	July 24, 1981
4,424,532	January 3, 1984	den Toonder et al.	380/226	May 9, 1983
4,425,581	January 10, 1984	Schweppe et al.	348/510	April 17, 1981
4,433,207	February 21, 1984	Best	713/190	September 10, 1981
4,434,323	February 28, 1984	Levine et al.	380/260	June 29, 1981
4,434,436	February 28, 1984	Kleykamp et al.	380/209	July 13, 1981
4,434,464	February 28, 1984	Suzuki et al.	711/164	March 31, 1981
4,446,519	May 1, 1984	Thomas	711/164	May 26, 1981
4,467,139	August 21, 1984	Mollier	713/181	March 12, 1981
4,467,356	August 21, 1984	McCoy	348/385.1	September 24, 1981
4,471,163	September 11, 1984	Donald et al.	705/55	October 5, 1981
4,471,164	September 11, 1984	Henry	380/30	October 13, 1981
4,475,123	October 2, 1984	Dumbauld et al.	380/211	April 2, 1981
4,513,174	April 23, 1985	Herman	711/214	March 19, 1981
4,528,588	July 9, 1985	Lofberg	340/5.1	May 18, 1982
4,528,589	July 9, 1985	Block et al.	380/241	February 1, 1984
4,593,353	June 3, 1986	Pickholtz	705/55	October 26, 1981
4,598,288	July 1, 1986	Yarbrough et al.	340/5.74	December 20, 1983
4,689,661	August 25, 1987	Barbieri et al.	375/240.01	June 22, 1981
4,706,282	November 10, 1987	Knowd	713/168	December 23, 1985
4,908,713	March 13, 1990	Levine	386/83	June 29, 1988
4,963,994	October 16, 1990	Levine	386/83	February 23, 1990
RE 31735	November 13, 1984	Davidson	380/235	July 26, 1982